RC Stock Cars & Bangers

Batteries and Chargers; What Charger Should I Buy

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Warning; chargers are electrical and therefore potentially dangerous. If you see a charger which has bare wires or looks physically damaged it would be unwise to buy it.

Under no circumstances should any charger be used for a purpose which is was not designed for (e.g. charging the wrong battery type). Always read the instruction with your charger and batteries.

Never leave a battery unattended whilst charging.

Obviously you will need a charger for the battery in your car and it will need to be up to the job of recharging the battery safely in the time available between races, this really gives you four things to consider when buying one;

- Battery type, number of cells & voltage
- Input voltage
- Charge rate & battery capacity
- Output connectors

Battery type, number of cells & voltage

You should check your batteries to find out what type of material they contain, their overall voltage and number of cells. Make sure that the charger which you are planning to buy supports this combination.

Bangers are likely to use 4-cell 4.8v NiMh batteries (4 individual 1.2v cells connected in series in a sealed pack) and stock cars will probably be LiPo 1S but these are guidelines only and there may be some exceptions out there, especially with older cars (for example I do have an older 7.2v 6-cell NiMh stock car). This information will be clearly displayed on the battery pack.

Input Voltage

A word of warning; some chargers are 240v and plus straight into the mains, some require a 12v input and some can handle either. If your charger can only handle 12v you will also need to purchase a transformer (with a high enough current output) if you do not already have one so these may be a false economy.

Charge rate & battery capacity

Batteries come in a range of capacities (e.g. 3700mAh, 5000mAh). The higher the capacity, the longer it will run between charges but the longer it will take to charge. Your charger will need to be able to achieve the job in the time available between races, it is best to charge a battery as slowly as possible but as a guideline a charger with an output lower than 5A may leave you short of time.

LiPo Batteries

Without wanting to be alarming, there are fire or explosion risks associated with LiPo batteries, especially when charging them so a couple of simple guidelines are well worth following;

LiPo batteries should be charged (and, ideally, stored) in a charging bag these are very cheap to buy and are a wise investment. Many clubs will not allow you to charge a LiPo without one.

LiPo batteries should not be 'fast charged' so make sure you have a spare. The battery will have a 'C' rate, this will help you to determine the safe maximum charge rate for it. I'm only covering single cell LiPo batteries here (it is all I use) and the guideline I use for charging is;

- Charging voltage = output voltage; in my case 3.7v
- Charging current = mAHr rating /1000; in my case a 3700 mAHr battery will be charged at 3.7A.

Output Connectors

There are a number of different types of battery connection out there with Deans and Tamiya being the most common, you will need to make sure that you have the correct charging lead to connect them although these are easy to make if required (some wire, a connector and a soldering iron).

Related Information

There are many second hand chargers available on eBay but it may be worth remembering that some chargers (240v NiCad / NiMh in particular) are quite heavy and they often seem to sell for more than new ones when the postage cost is added in.

There are also many ‘cloned’ or ‘fake’ chargers available so if buying things cheaply you are taking a risk.

Almost all modern chargers will shut down to a 'trickle charge' once your battery is full but if you are buying something old it may be worth checking the original specification (you can often find this on the internet).

Many modern chargers also feature a discharger which allows you to completely 'cycle' your battery between meetings and may extend its life. They may also feature an inbuilt balancer which will help to ensure that each individual battery cell is charged to give its best performance. Neither of these features are likely to be 'critical' for a banger but they will help to prolong your battery life if you can afford them. This article will be updated from time to time so pop back and have a look.